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Indy ORF

atggaaattgaaattggcgaacaaccccagcctccggtgaagtgctccaacttcttcgctaaccactggaagggattggt
tgtgttcctggtgccgctgctatgtctgcctgttatgctgctaaacgaaggcgccgaatttcggtgcatgtacctccttt
tggtaatggccatattttgggttacggaagccttgcctctctatgtgacgtccatgataccgattgtggccttcccaata
atgggtataatgagctcggatcagacttgccgcttgtacttcaaggatacgctggtgatgttcatgggcggcattatggt
cgccctggctgtggagtactgtaatctacacaaacgtcttgccttgagggtaatccagatcgtgggctgcagtccccgca
gattacactttggcctcatcatggttacaatgttttttgagcatgtggatttcgaacgccgcctgtactgccatgatgtgt
ccgattatccaagccgtgctggaggagctgcaggctcagggtgtctgcaaaatcaaccatgagcctcaataccaaatcgt
tggaggcaacaagaaaaacaacgaggatgagccaccataccccaccaagatcactctgtgctactatctgggcattgcct
acgcctcctcgctgggtggctgtggaaccatcatcggaactgccaccaatcttaccttcaagggcatctacgaggctcgt
ttcaagaactccaccgaacagatggacttccccaccttcatgttctactcggtgccatccatgttggtctacaccttgct
gacattcgtgttcctgcaatggcacttcatgggtctgtggcgtcccaagagcaaggaggcacaggaagtccagaggggac
gagagggcgccgatgtcgccaaaaaggttatcgatcagcgctacaaggatctgggtcccatgtccattcacgagatccaa
gtgatgattctgttcattttatggttgtgatgtacttcacccgcaagcccggcatcttttgggatgggccgatttgct
gaattccaaggacattcgtaactctatgcccactattttgtcgtcgtcatgtgcttcatgctgcccgccaattatgctt
tcctacgctactgcaccagacgcggtggtccagtgcccacgggtcccactccatcgctgatcacctggaagttcatccag
accaaggtgccatggggtctggtgttcctgcttggcggtggcttcgctttggccgaaggcagcaagcagagcggcatggc
caagctgattggcaatgctctgattggattgaaggttctgcccaactctgtcctcttactggtggtcatcctggtggctg
tgttcctgaccgccttcagctccaatgtggcgattgccaacattattattcccgttctggccgagatgtccctggccatt
gagatccatcctctgtacctgatcctgcccgctggccttggcctgcagtatggccttccacctgccggttagtactccgcc
caacgctttggttgctggctatgccaacattaggacgaaggacatggccattgctggaatcggtccgaccatcattacca
tcatcaccctgtttgttttctgccaaacctgggggcctggttgtctatccgaaccttaactcgttccccgaatgggctcag
atttatgccgcggcagcactgggaaacaagacgcactag

Fig 1

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MEIEIGEQPQPPVKCSNFFANHWKGLVVFLVPLLCLPVMLLNEGAEFRCM
YLLLVMAIFWVTEALPLYVTSMIPIVAFPIMGIMSSDQTCRLYFKDTLVM
FMGGIMVALAVEYCNLHKRLALRVIQIVGCSPRRLHFGLIMVTMFLSMWI
SNAACTAMMCPIIQAVLEELQAQGVCKINHEPQYQIVGGNKKNNEDEPPY
PTKITLCYYLGIAYASSLGGCGTIIGTATNLTFKGIYEARFKNSTEQMDF
PTFMFYSVPSMLVYTLLTFVFLQWHFMGLWRPKSKEAQEVQRGREGADVA
KKVIDQRYKDLGPMSIHEIQVMILFIFMVVMYFTRKPGIFLGWADLLNSK
DIRNSMPTIFVVVMCFMLPANYAFLRYCTRRGGPVPTGPTPSLITWKFIQ
TKVPWGLVFLLGGGFALAEGSKQSGMAKLIGNALIGLKVLPNSVLLLVVI
LVAVFLTAFSSNVAIANIIIPVLAEMSLAIEIHPLYLILPAGLACSMAFH
LPVSTPPNALVAGYANIRTKDMAIAGIGPTIITIITLFVFCQTWGLVVYP
NLNSFPEWAQIYAAAALGNKTH

Fig 2

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Map of the *Indy* region
(including 5 different P-element insertional alleles.)

Fig 3

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Fig 4

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Fig 5

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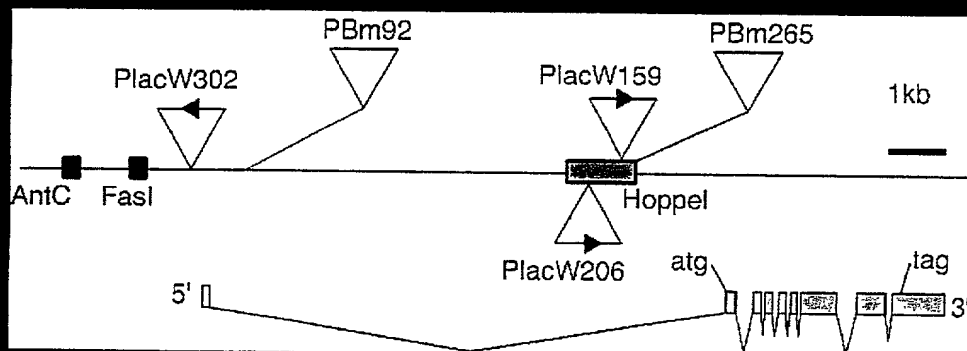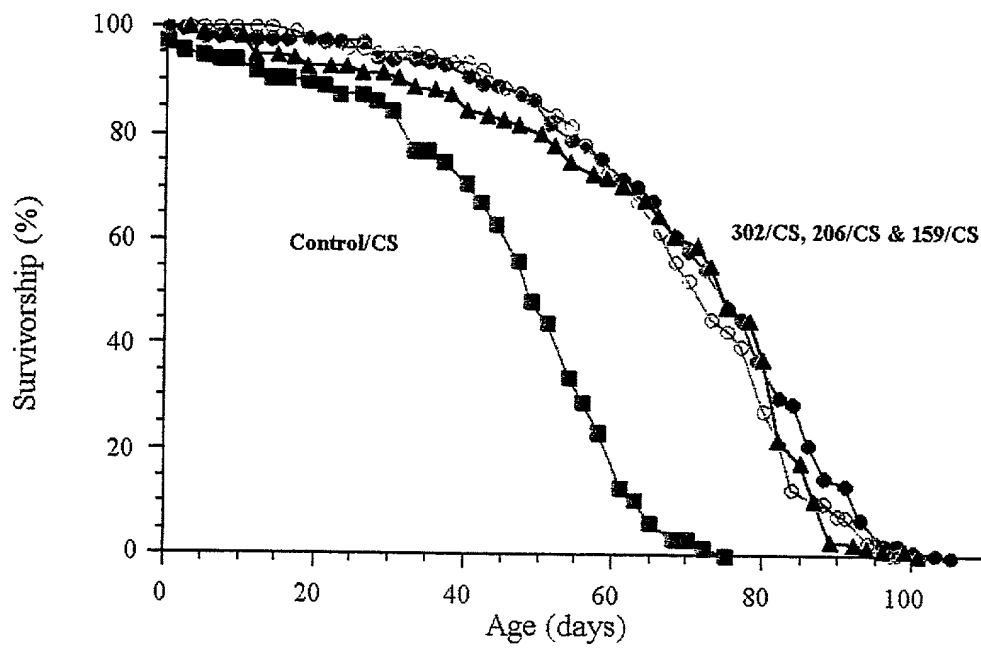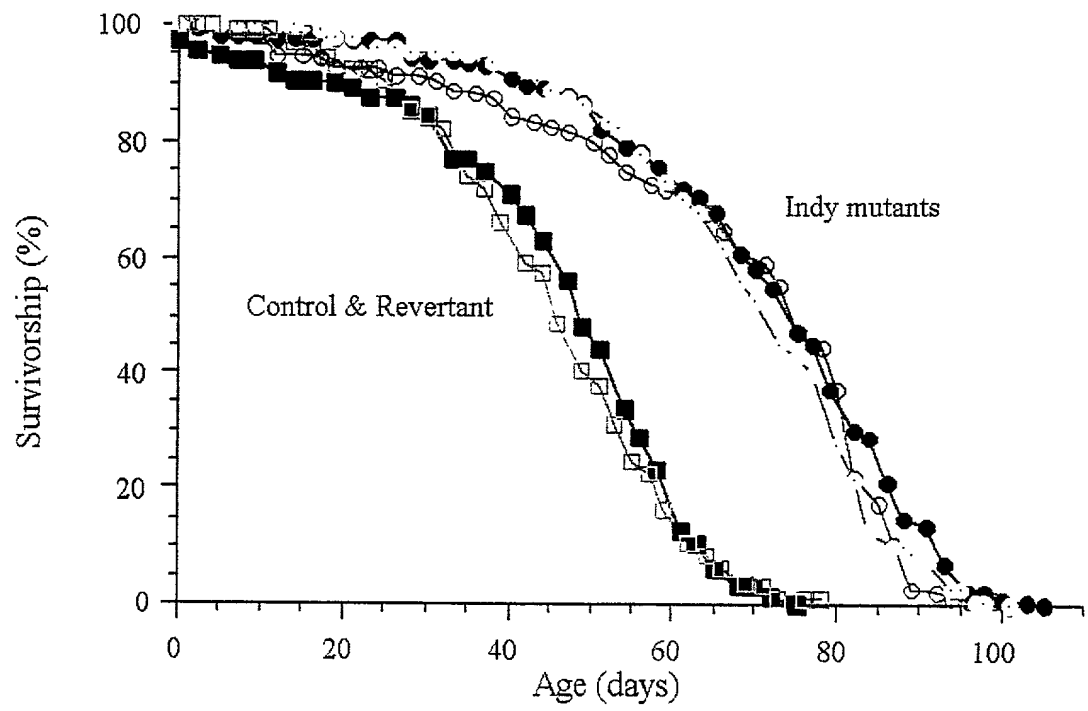
Survivorship for females heterozygous for 206 (206-*Hk*)
or 1085 control (control-*Hk*) enhancer trap line in a
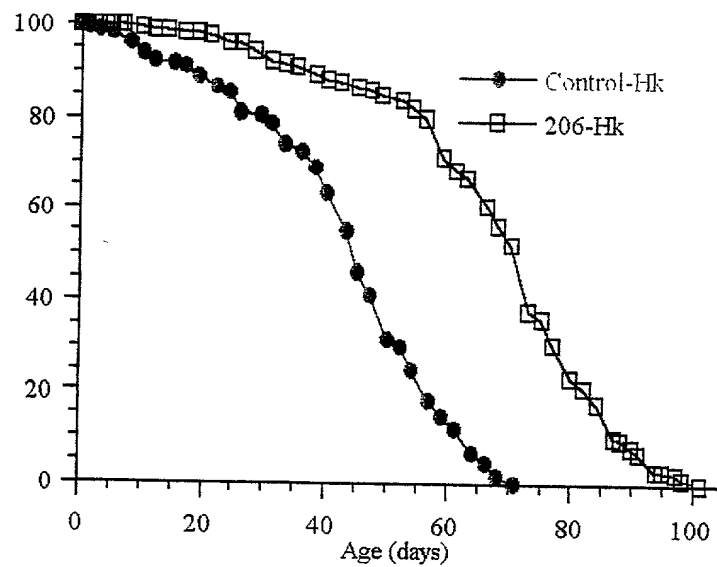*Hyperkinetic* background at 25°C

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Survivorship for males from the Luckinbill long-lived line (1L6)
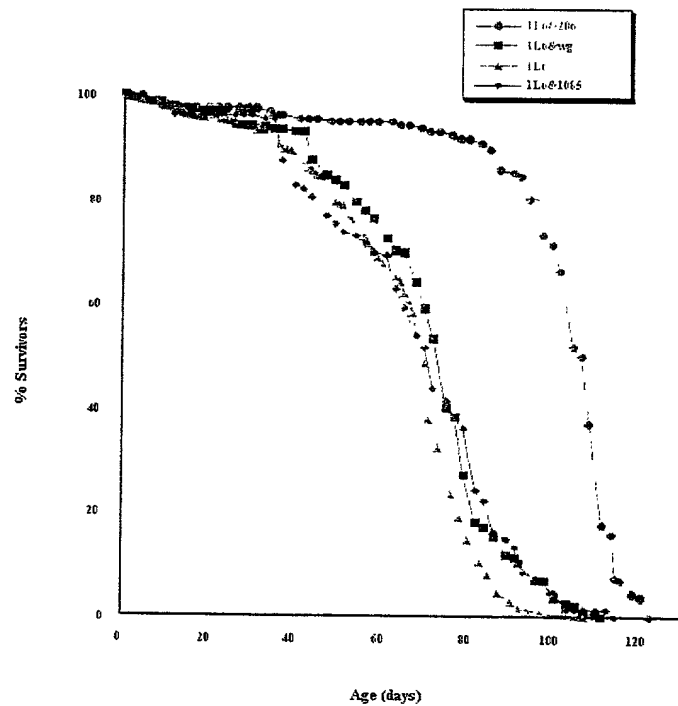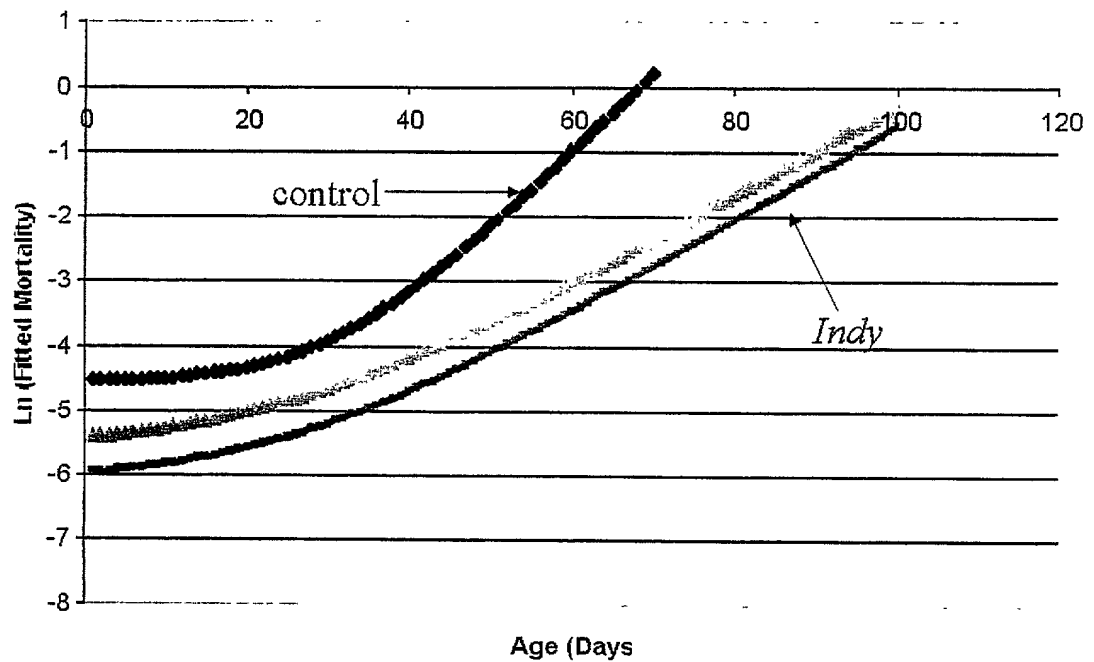and heterozygous for the 206, 1085, *wg* and Luckinbill 1L6 line at
25°C

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Fig 8

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Indy codes for a Sodium Dicarboxylic acid Cotransporter

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Fig 10

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Fig 11

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Subcellular localization of INDY protein

Fig 12

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INDY transports dicarboxylic acids in the frog oocyte system.
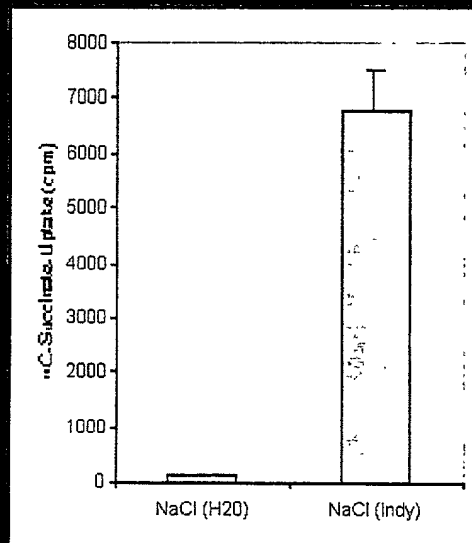
Fig 13

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Fig 14

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Fig 15

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F.g16

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Fig 17

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Fig 18

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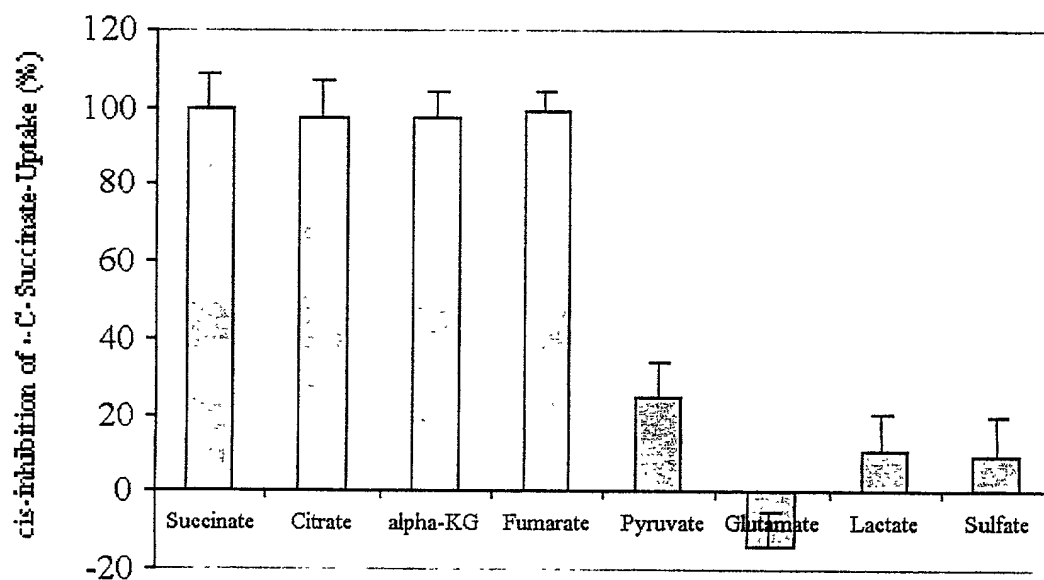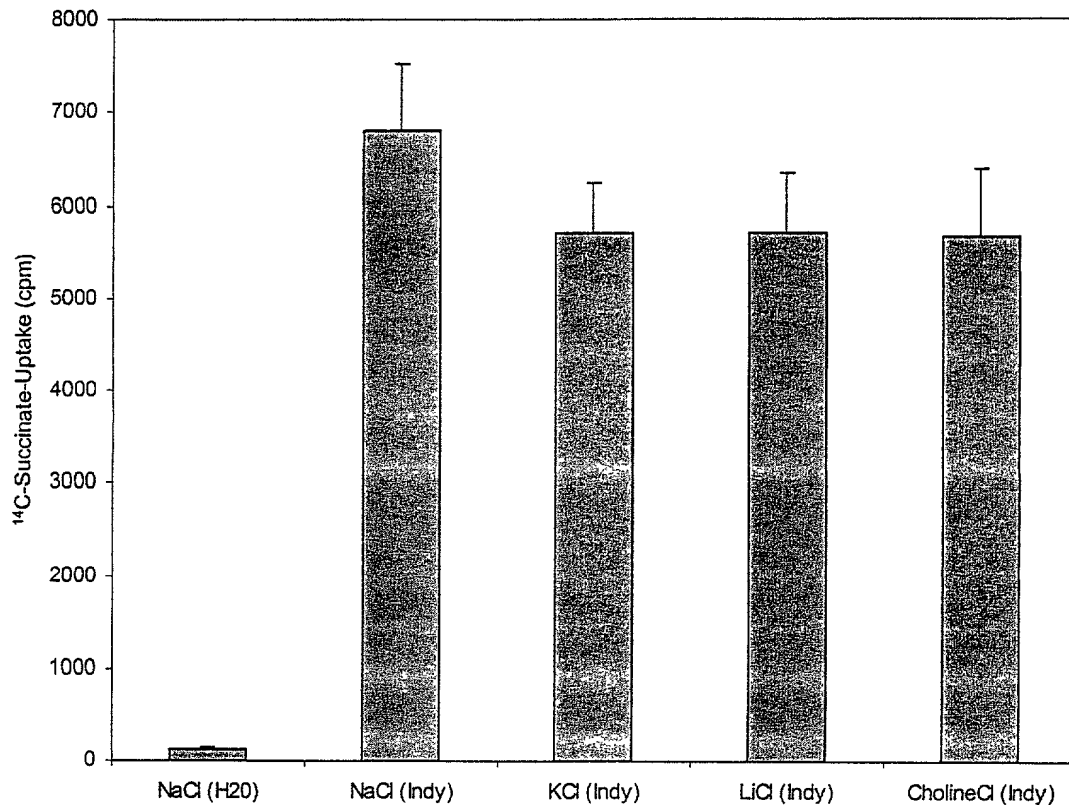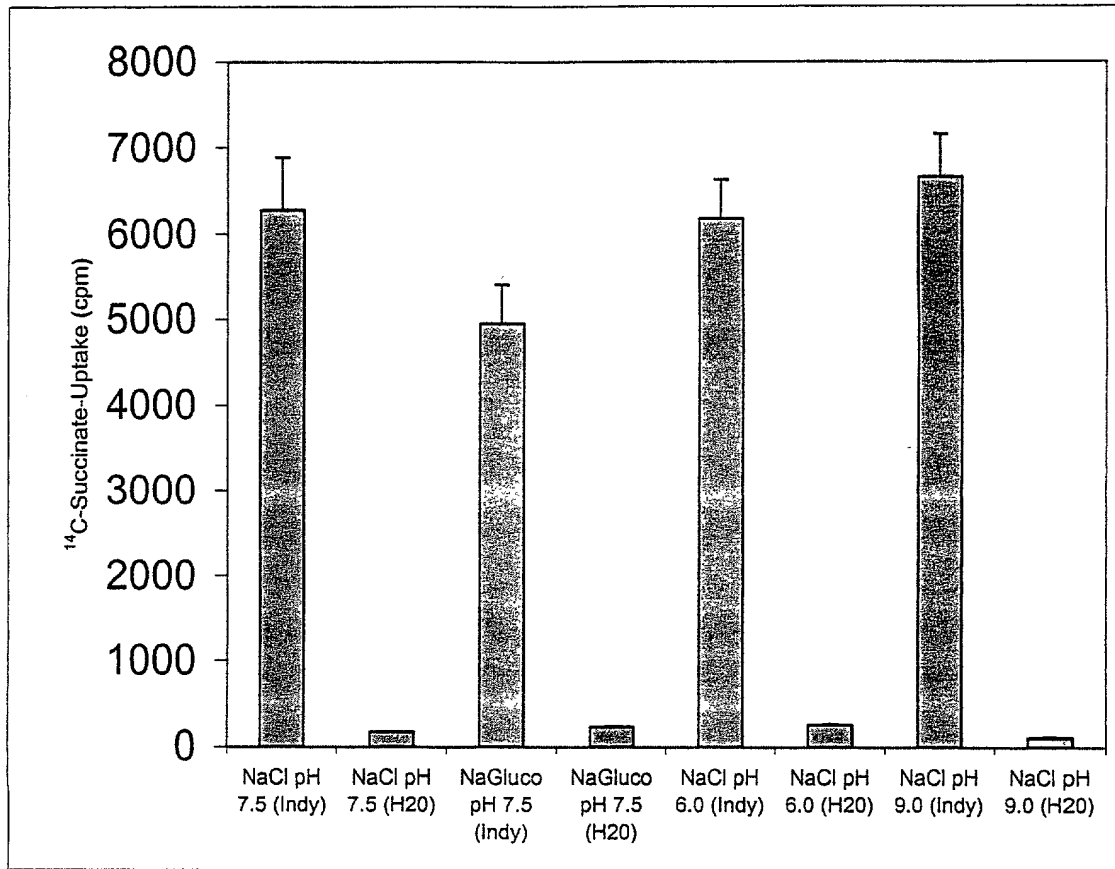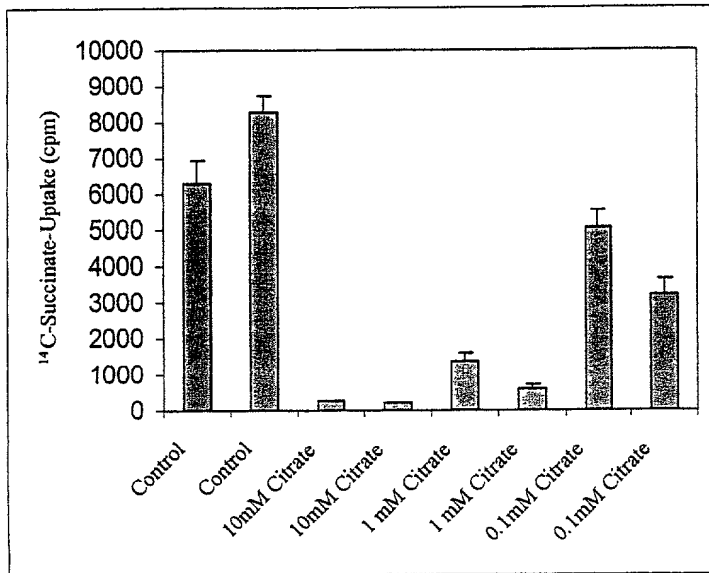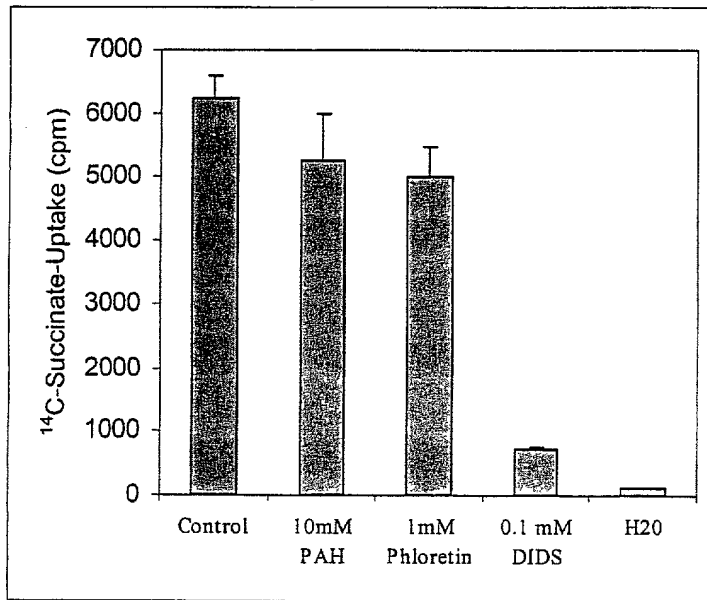
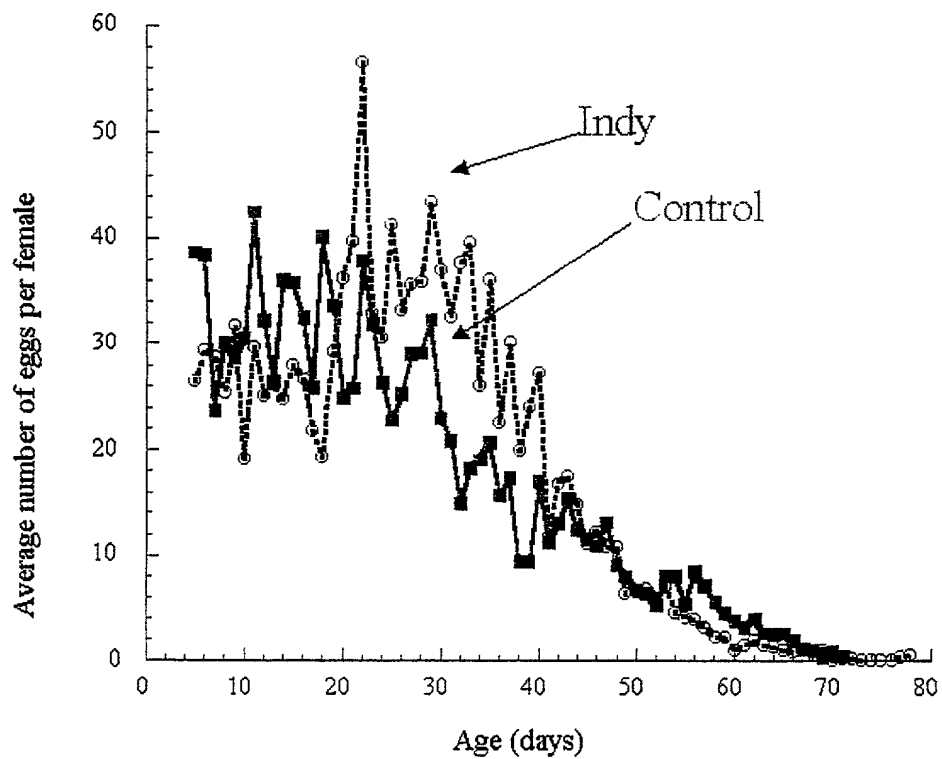# Fertility of *Indy* mutants is not reduced.
(high calorie conditions)

Fig. 19

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Indy egg production is reduced under low calorie conditions.

Fig 20

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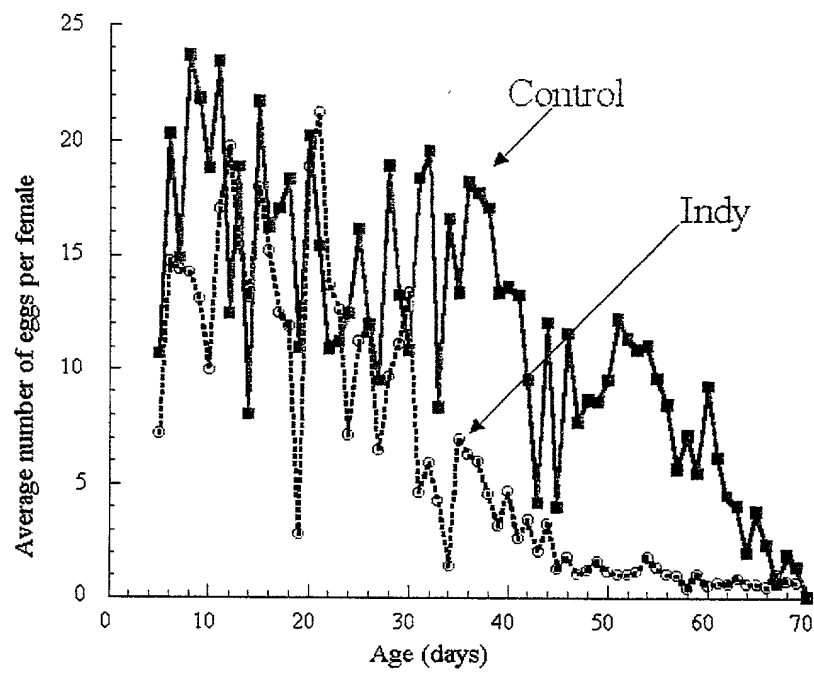
Reducing calories increases life span.

Fig 21

Title: Methods for the Metabolic Maintenance
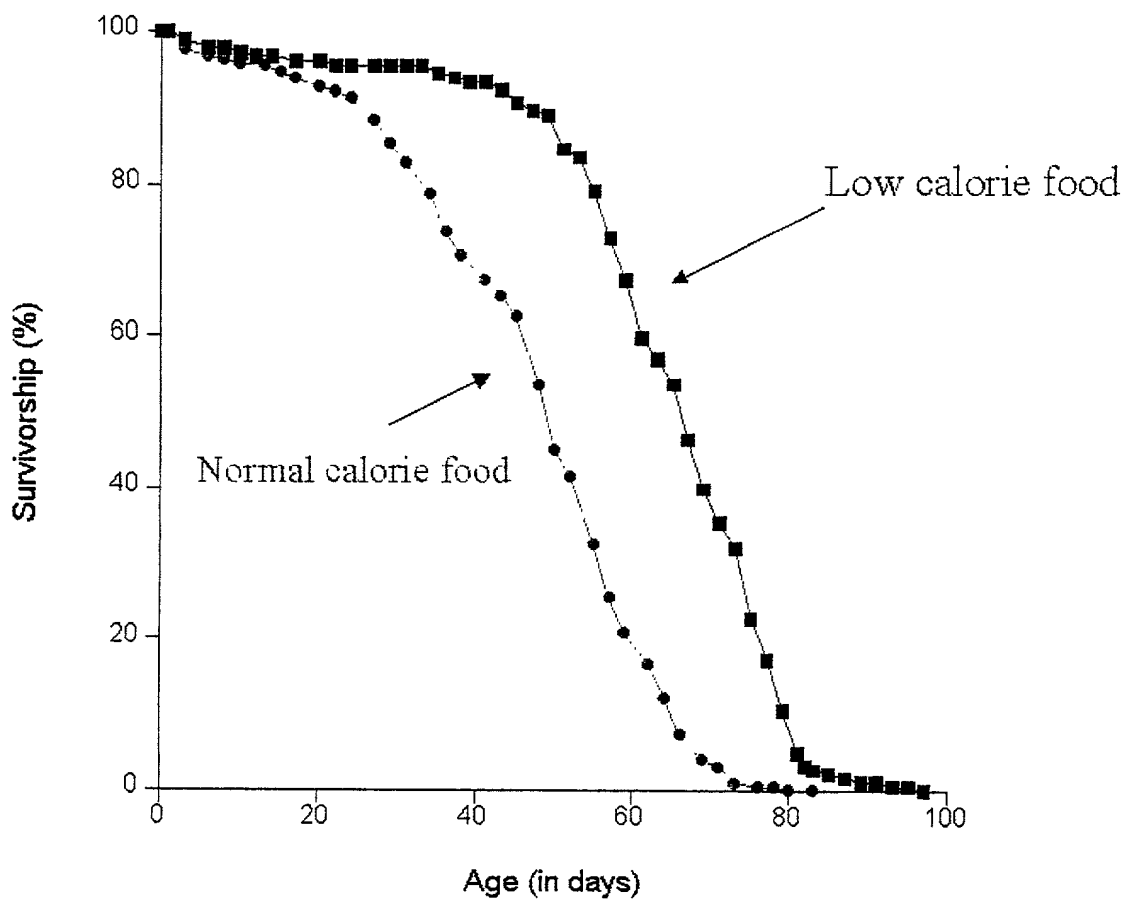Using Contransporters
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Reducing calories decreases *Indy/Indy* life span

Fig 22